

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): An ultrasonic diagnostic
2 apparatus obtaining plural ultrasonic tomographic images
3 at a process that an ultrasonic probe moves and scans
4 within a body cavity of a body to be examined, the
5 apparatus comprising:
6 position information detecting means for detecting
7 three dimensional position information of plural
8 ultrasonic tomographic images obtained in a process that
9 the ultrasonic probe moves within a body cavity of a body
10 to be examined; and
11 tomographic parallel images constructing means for
12 constructing plural tomographic parallel images arranged
13 along a scan path of the ultrasonic probe based on the
14 three dimensional position information obtained by the
15 position information detecting means.

1 Claim 2 (original): The ultrasonic diagnostic apparatus
2 according to Claim 1, further comprising display control
3 means for causing display means to display the ultrasonic
4 tomographic image and the tomographic parallel images so
5 as to compare.

1 Claim 3 (original): The ultrasonic diagnostic apparatus
2 according to Claim 1, wherein the tomographic parallel
3 images constructing means constructs new tomographic
4 parallel images by overwriting pixels corresponding to
5 the tomographic parallel images with the pixels

6 corresponding to the ultrasonic tomographic image every
7 time when the ultrasonic tomographic image is created in
8 the process that the ultrasonic probe moves and scans
9 within a body cavity of a body to be examined.

1 Claim 4 (currently amended): An ultrasonic diagnostic
2 apparatus obtaining plural ultrasonic tomographic images
3 in a process that an ultrasonic probe moves within a body
4 cavity of a body to be examined, the apparatus
5 comprising:
6 position and direction detecting means for detecting
7 three dimensional positions and directions of plural
8 ultrasonic tomographic images; and
9 tomographic parallel images constructing means for
10 constructing tomographic parallel images arranged along a
11 scan path based on the three dimensional positions and
12 the directions.

1 Claim 5 (original): The ultrasonic diagnostic apparatus
2 according to Claim 4, further comprising display means
3 displaying the ultrasonic tomographic image and the
4 tomographic parallel images so as to compare them.

1 Claim 6 (original): The ultrasonic diagnostic apparatus
2 according to Claim 5, wherein the display means displays
3 the ultrasonic tomographic image and the tomographic
4 parallel images on one screen so as to compare them.

1 Claim 7 (original): The ultrasonic diagnostic apparatus
2 according to Claim 5, wherein the display means displays
3 on the tomographic parallel images an ultrasonic
4 tomographic image marker indicating a position of the
5 ultrasonic tomographic image.

1 Claim 8 (original): The ultrasonic diagnostic apparatus
2 according to Claim 7, further comprising ultrasonic
3 tomographic image marker setting means for setting a
4 position of the ultrasonic tomographic image marker,
5 wherein the display means selects and displays the
6 ultrasonic tomographic image in accordance with a
7 position of the ultrasonic tomographic image marker set
8 by the ultrasonic tomographic image marker setting means.

1 Claim 9 (withdrawn): The ultrasonic diagnostic apparatus
2 according to Claim 4, further comprising slicing means
3 for slicing the ultrasonic tomographic image and creating
4 slices of the ultrasonic tomographic images, wherein the
5 tomographic parallel images constructing means constructs
6 tomographic parallel images by arranging the slices.

1 Claim 10 (withdrawn): The ultrasonic diagnostic
2 apparatus according to Claim 9, further comprising
3 slicing position setting means for setting a position of
4 slicing the ultrasonic tomographic image, wherein the
5 slicing means slices an ultrasonic tomographic image at a
6 position set by the slicing position setting means and
7 creates slices thereof.

1 Claim 11 (withdrawn): The ultrasonic diagnostic
2 apparatus according to Claim 4, further comprising
3 rotating means for constructing new tomographic parallel
4 images which are resulted from rotation of the
5 tomographic parallel images.

1 Claim 12 (original): The ultrasonic diagnostic apparatus
2 according to Claim 4, wherein the display means displays
3 the tomographic parallel images and an indicator
4 indicating a direction of the tomographic parallel images
5 with respect to the position and direction detecting
6 means.

1 Claim 13 (original): The ultrasonic diagnostic apparatus
2 according to Claim 4, wherein the tomographic parallel
3 images constructing means constructs new tomographic
4 parallel images by overwriting the tomographic parallel
5 images with pixels on the ultrasonic tomographic image
6 every time when the ultrasonic tomographic image is
7 created in a process that an ultrasonic probe moves
8 within a body cavity of a body to be examined.

1 Claim 14 (currently amended): The ultrasonic diagnostic
2 apparatus according to Claim 13, wherein the tomographic
3 parallel images constructing means determines pixels to
4 be overwritten based on the three dimensional position
5 and direction detected by the position and direction
6 detecting means.

1 Claim 15 (original): The ultrasonic diagnostic apparatus
2 according to Claim 4, wherein the ultrasonic probe
3 constitutes a mechanical radial scan type ultrasonic
4 endoscope performing mechanical radial scanning.

1 Claim 16 (original): The ultrasonic diagnostic apparatus
2 according to Claim 4, wherein the ultrasonic probe
3 constitutes an electronic radial scan type ultrasonic
4 endoscope performing electronic radial scanning.

1 Claim 17 (original): The ultrasonic diagnostic apparatus
2 according to Claim 4, wherein the ultrasonic probe
3 constitutes a capsule ultrasonic endoscope.

1 Claim 18 (original): The ultrasonic diagnostic apparatus
2 according to Claim 4, wherein the ultrasonic probe
3 constitutes a convex scanning type ultrasonic endoscope
4 performing convex scanning.

1 Claim 19 (currently amended): An ultrasonic diagnostic
2 apparatus moving an ultrasonic transducer within a body
3 cavity of a body to be examined and creating plural
4 chronological tomographic images in accordance with the
5 movement, the apparatus comprising:
6 position information detecting means for detecting
7 position information of the ultrasonic transducer when
8 the tomographic images are obtained; and
9 auxiliary image creating means for creating an
10 auxiliary image indicating position information of the

11 tomographic images along a non-linear path of the
12 movement of the ultrasonic transducer based on position
13 information obtained by the position information
14 detecting means and the tomographic images corresponding
15 to the position information.

1 Claim 20 (original): The ultrasonic diagnostic apparatus
2 according to Claim 19, further comprising display control
3 means for displaying the auxiliary image and a
4 tomographic image corresponding to the auxiliary image so
5 as to compare them.

1 Claim 21 (original): The ultrasonic diagnostic apparatus
2 according to Claim 19, wherein the auxiliary image
3 creating means creates the auxiliary image including a
4 plate-like ultrasonic image marker expressing a position
5 and direction of the tomographic image.

1 Claim 22 (original): The ultrasonic diagnostic apparatus
2 according to Claim 20, wherein the display control means
3 causes display of the auxiliary image and a tomographic
4 image corresponding to the auxiliary image on the same
5 screen.

1 Claim 23 (withdrawn): The ultrasonic diagnostic
2 apparatus according to Claim 19, further comprising
3 recording means for relating and recording the
4 tomographic image and the position information,

5 wherein the auxiliary image creating means can create an
6 auxiliary image indicating position information of the
7 tomographic image based on the position information read
8 from the recording means and the tomographic image
9 corresponding to the position information.

1 Claim 24 (original): The ultrasonic diagnostic apparatus
2 according to Claim 20, wherein:

3 the auxiliary image creating means creates plural
4 auxiliary images for indicating position information of
5 the tomographic images from different directions; and

6 the display control means causes display of the
7 auxiliary images on the same screen so as to compare
8 them.

1 Claim 25 (original): The ultrasonic diagnostic apparatus
2 according to Claim 21, wherein the auxiliary image
3 creating means creates the auxiliary image by
4 synthesizing the plural ultrasonic image markers and a
5 locus marker of the ultrasonic transducer, which is
6 created by sequentially connecting the ultrasonic image
7 markers.

1 Claim 26 (original): The ultrasonic diagnostic apparatus
2 according to Claim 21, wherein the auxiliary image
3 creating means superimposes a direction marker indicating
4 a specific direction of a corresponding tomographic image
5 on the ultrasonic image marker.

1 Claim 27 (withdrawn): The ultrasonic diagnostic
2 apparatus according to Claim 19, further comprising input
3 means instructing changing a mode of displaying the
4 tomographic image,

5 wherein the auxiliary image creating means creates
6 an auxiliary image having the ultrasonic image marker
7 displayed in a mode changed in connection with a change
8 in mode of displaying the tomographic images.

1 Claim 28 (original): The ultrasonic diagnostic apparatus
2 according to Claim 19, wherein the auxiliary image
3 creating means creates the auxiliary image including the
4 plural ultrasonic image markers arranged along a path of
5 movement of the ultrasonic transducer, and makes a
6 display form of the ultrasonic image marker corresponding
7 to the tomographic image displayed for comparison among
8 the plural ultrasonic image markers different from a
9 display form of the other ultrasonic image markers.

1 Claim 29 (original): The ultrasonic diagnostic apparatus
2 according to Claim 28, further comprising input means
3 instructing changing a tomographic image to be displayed
4 among the plural tomographic images recorded in the
5 recording means,

6 wherein the auxiliary image creating means changes
7 the ultrasonic image marker to a different display form
8 in connection with a change in the tomographic image to
9 be displayed.

1 Claim 30 (original): The ultrasonic diagnostic apparatus
2 according to Claim 20, wherein the auxiliary image
3 creating means creates the auxiliary image including a
4 marker indicating a coordinates system, which is a
5 reference for creating the ultrasonic image markers.

1 Claim 31 (original): The ultrasonic diagnostic apparatus
2 according to Claim 30, further comprising input means
3 instructing changing a direction of displaying the
4 auxiliary image,
5 wherein the auxiliary image creating means changes a
6 direction of displaying the auxiliary image as well as
7 the marker indicating the coordinates system based on the
8 instruction from the input means.

1 Claim 32 (original): The ultrasonic diagnostic apparatus
2 according to Claim 19, wherein the position information
3 detecting means calculates the position information based
4 on a coordinates system with reference to a body to be
5 examined.